

## TANGIBLE RESULT #10

# Facilitate Economic Opportunity in Maryland



Maryland's transportation system is essential to the State's economy. An efficient transportation system provides a competitive advantage to businesses in a regional, national and global marketplace. Transportation directly impacts the viability of a region as a place where people want to live, work and raise families, and is critical to attracting a competent workforce.

### RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Karuna R. Pujara

*State Highway Administration (SHA)*

## PURPOSE OF MEASURE:

To track direct, indirect and induced jobs generated by annual construction investments as an indicator of transportation projects contribution of economic return.

## FREQUENCY:

Annually (in January)

## DATA COLLECTION METHODOLOGY:

MDOT compiles the necessary data through the annual CTP process.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.1

### Economic Return from Transportation Investment (Jobs Generated by Total Capital Program Construction Investments)

Construction spending on transportation projects has a significant economic impact on people and businesses throughout the State. Economic return from transportation investment is based on the estimated number of jobs created as a result of MDOT investments in capital projects. In FY2017, close to 26,000 jobs were created by MDOT which is an increase of nearly 2,600 over FY2016.

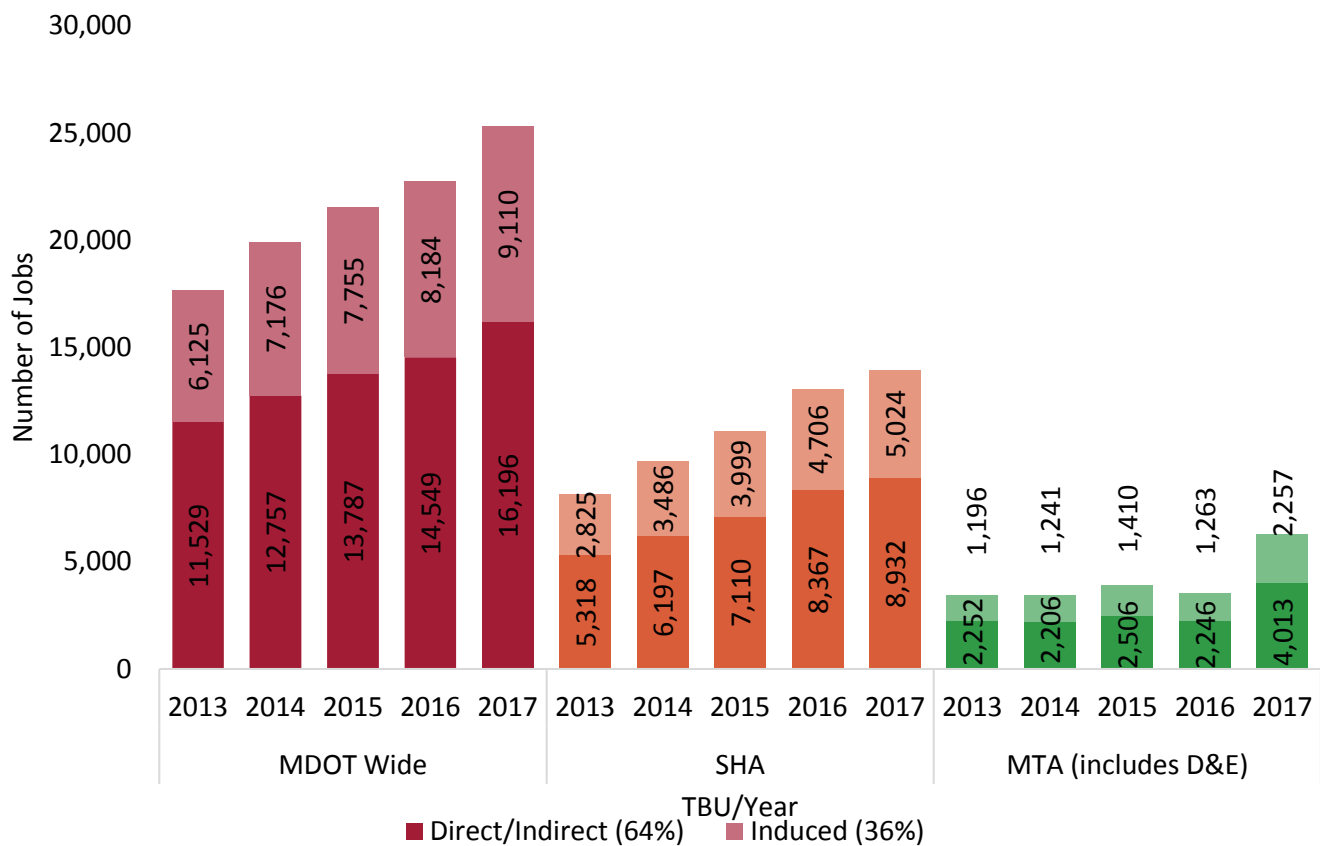
The annual CTP is used to identify planned investments by each TBU on major construction projects. Construction projects generate three types of jobs: direct jobs are those generated by the actual construction activity; indirect jobs are supported by the business purchases necessary for the project's construction; and induced jobs are a result of local purchases of goods and services by the direct employees. Capital investments in transportation infrastructure support economic activity across a wider region, beyond the specific project location.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.1

### Economic Return from Transportation Investment (Jobs Generated by Total Capital Program Construction Investments)

Chart 10.1.1: Estimated Number of Jobs Created by TBU Capital/Construction Programs FY2013-FY2017

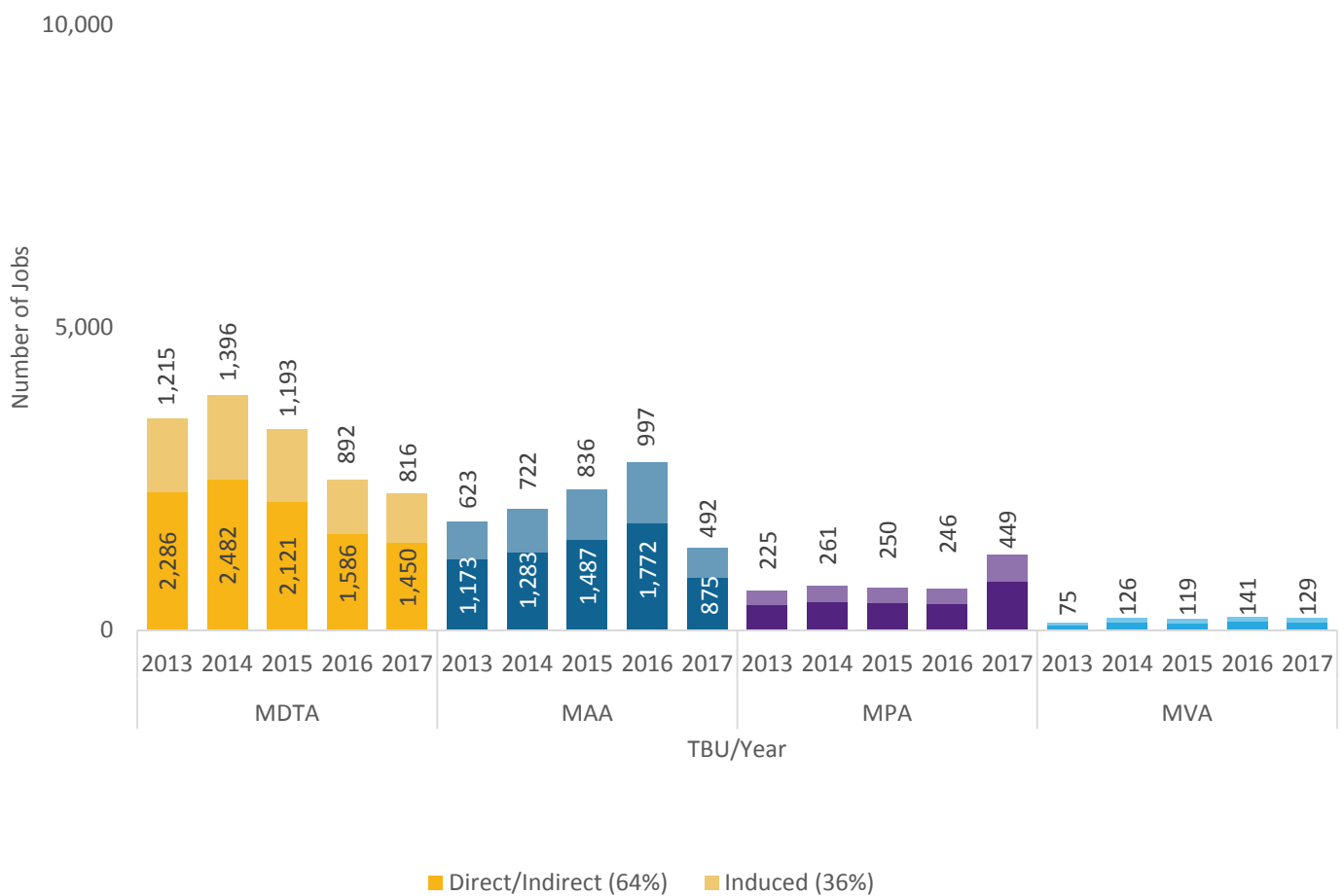


# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.1

Economic Return from Transportation Investment (Jobs Generated by Total Capital Program Construction Investments)

Chart 10.1.2: Estimated Number of Jobs Created by TBU Capital/Construction Programs FY2013-FY2017



# Facilitate Economic Opportunity in Maryland

## **TANGIBLE RESULT DRIVER:**

Jim Dwyer

*Maryland Port Administration (MPA)*

## **PERFORMANCE MEASURE DRIVER:**

Karuna R. Pujara

*State Highway Administration (SHA)*

## **PURPOSE OF MEASURE:**

To compare Maryland against other states' economic activity based on access to and condition of the infrastructure.

## **FREQUENCY:**

Annually (in October)

## **DATA COLLECTION METHODOLOGY:**

Using publicly available data, CNBC assesses every states' infrastructure including value of goods movement; availability of air travel; road and bridge conditions; and commute times.

## **NATIONAL BENCHMARK:**

<https://www.cnbc.com/2017/07/11/top-states-for-business-25-maryland.html>

## **PERFORMANCE MEASURE 10.2**

### **Maryland's Ranking in National Transportation Infrastructure Assessment**

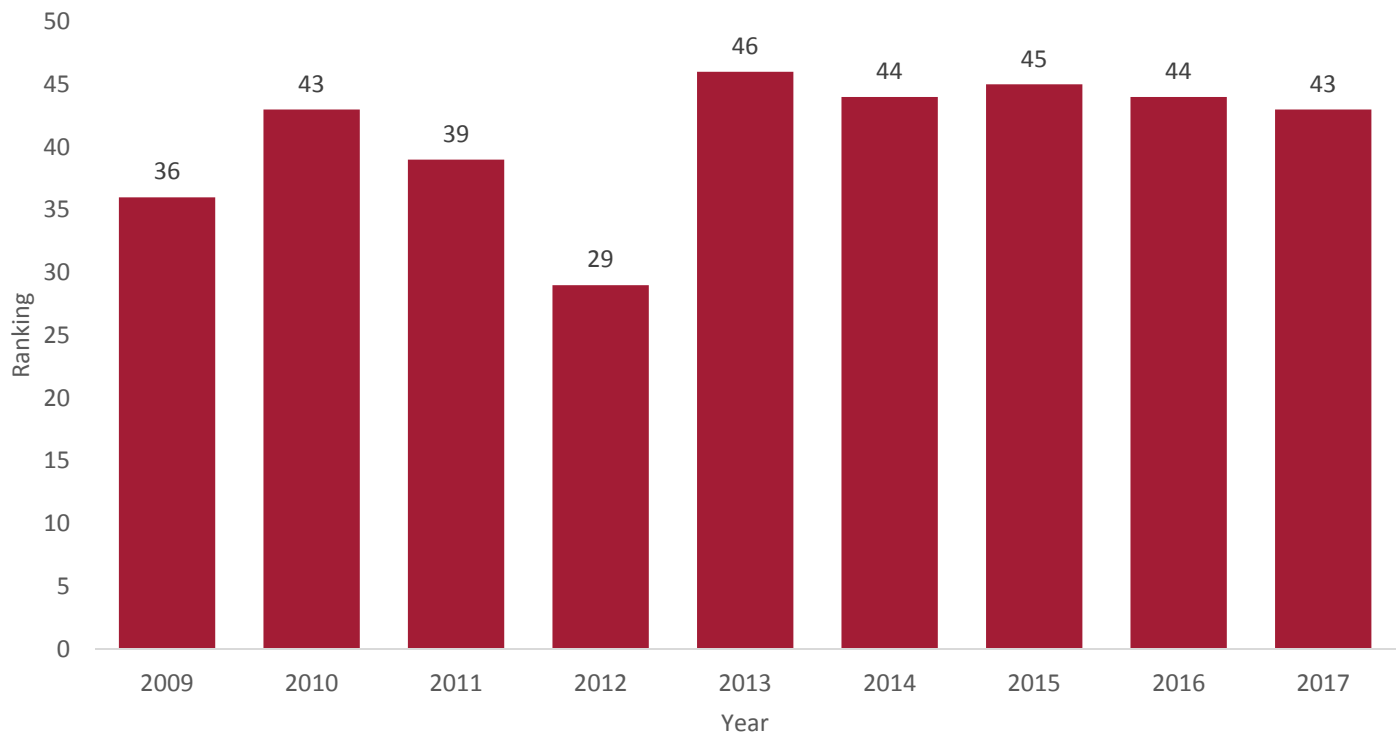
The CNBC business news media group uses publicly available data on 60 measures of competitiveness to score each state. The metrics are organized into ten broad categories and weighted based on how frequently each is used as a selling point in state economic development marketing materials. The infrastructure category is a measure of a state's transportation system and supply of safe drinking water. It includes metrics to compare the value of goods shipped by air, waterways, roads and rail within a state, the quality of roads and bridges, and commute times. The annual rankings can be used as a national benchmark for infrastructure conditions over time as a means of comparing Maryland's standing versus other states. For 2017, Maryland is ranked 43rd, which is a three-point improvement since 2013. Maryland ranks in the bottom ten because of the mobility/congestion components used to compute the infrastructure metric.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.2

### Maryland's Ranking in National Transportation Infrastructure Assessment

Chart 10.2.1: America's Top States for Business Annual Rankings for Maryland in Infrastructure CY2008-CY2017



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Juan Torrico

*Maryland Transit Administration (MTA)*

## PURPOSE OF MEASURE:

To assess freight mobility and the amount and value of freight originating and terminating in Maryland as an indicator of how supportive transportation infrastructure is for freight and Maryland's economy.

## FREQUENCY:

Annually (in April)

## DATA COLLECTION METHODOLOGY:

U.S. Department of Transportation Freight Analysis Framework (FAF4) Version 4 and MPA.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.3A

### Freight Mobility: Freight Analysis Framework (FAF) Tonnage and Value of Freight

Efficient and interconnected multimodal freight movement is essential to the State's economy because freight is the economy-in-motion. Maryland manufacturers depend on the freight system to move raw materials and finished goods between production facilities, distribution centers and retail outlets in Maryland and throughout the U.S. and the world. Freight-dependent industries account for over one million jobs in Maryland.

- Water and rail are well-suited to cost-effectively haul goods long distances. Commercial ships utilize the Port of Baltimore to transfer waterborne goods to land, at which point trucks and rail haul these imported goods to communities around the nation.
- Trucks carry nearly every type of commodity from consumer products to chemicals to machinery.
- High value and time-sensitive products are commonly shipped via air.
- The top air freight commodities shipped out of MAA facilities include mail, machinery and transportation equipment.

MDOT is currently updating the Strategic Goods Movement Plan to address the latest Fixing America's Surface Transportation (FAST) Act requirements.



# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.3A

### Freight Mobility: Freight Analysis Framework (FAF) Tonnage and Value of Freight

Chart 10.3A: Freight Analysis Framework (FAF) Tonnage and Value of Freight

METHOD FOR MOVING FREIGHT	TOTAL VALUE (MILLIONS)	TOTAL TONNAGE (THOUSANDS)
Air*	\$13,379	141
Pipeline & Other**	\$72,539	39,488
Rail*	\$15,063	26,206
Truck*	\$318,074	214,317
Water***	\$49,915	31,834
All Freight	\$468,970	311,986

\*Source: U.S. Department of Transportation Freight Analysis Framework (FAF4). Other, Multiple Modes and Mail, Rail, and Truck value and tonnage data is estimated based on FAF4 data. The data is based off of 2012 actual data collected by FHWA and is factored by FHWA through 2015. MDOT adjusts the yearly by a 2% annual growth rate that reflects a conservative estimate of domestic and international freight growth given current economic conditions.

\*\*Pipeline and Other freight consists largely pipeline, postal and courier shipments weighing less than 100 pounds and other intermodal combinations. Represents a combination of FAF4 Pipeline, Other and Unknown and Multiple Modes and Mail categories.

\*\*\* International cargo through the Port of Baltimore in 2016, source: MPA.

Data for air, rail and truck is adjusted yearly to account for 2016 FHWA FAF data (based on 2012 actual data and FHWA adjustments) and a 2% annual growth rate.



# Facilitate Economic Opportunity in Maryland

## **TANGIBLE RESULT DRIVER:**

Jim Dwyer

*Maryland Port Administration (MPA)*

## **PERFORMANCE MEASURE DRIVER:**

Juan Torrico

*Maryland Transit Administration (MTA)*

## **PURPOSE OF MEASURE:**

To track public and private international waterborne cargo activity in the Port of Baltimore, which is a strong indicator of jobs generated and economic activity.

## **FREQUENCY:**

Quarterly

## **DATA COLLECTION METHODOLOGY:**

U.S. Census data via website – USA Trade Online.

## **NATIONAL BENCHMARK:**

Mid-Atlantic ports' international cargo.

## **PERFORMANCE MEASURE 10.3B**

### **Freight Mobility: Port of Baltimore International Cargo Market Share and Rankings**

Cargo through the Port of Baltimore is an indicator of the region's commercial health. Freight is the economy in motion; if freight is not moving, then neither is the economy. International tonnage in Baltimore increased 46 percent in the 3rd quarter (compared to same period of the prior year) due to strong container, export autos and export coal volumes. The Port's general cargo was up 15 percent in the 3rd quarter, and bulk commodities were up 69 percent.

Baltimore's international cargo tonnage increased three million tons to a total of 9.5 million tons in the 3rd quarter compared to the same period of the prior year. Market share increased three percentage point for the Mid-Atlantic ports.

The MPA is an active partner with the Corps of Engineers to ensure the navigation channels are dredged to allow the world's fleets easy access between the Port and global markets.

In the Mid-Atlantic region year-to-date, the Port of Baltimore ranks:

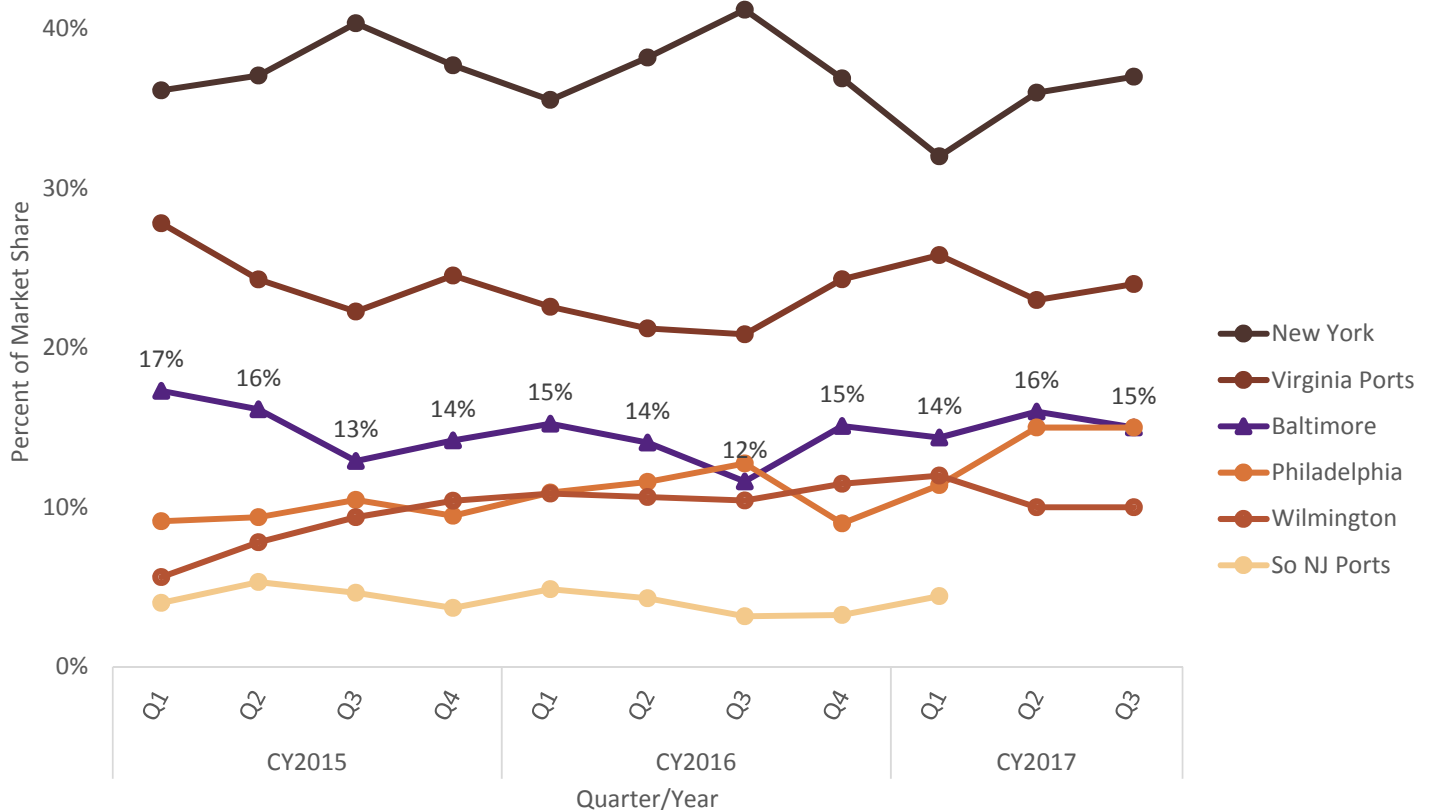
- 1st in Autos; and Roll-on/Roll-off heavy equipment;
- 1st in Imported Sugar,
- 2nd in Exported Coal,
- 2nd in Imported Forrest Products,
- 3rd in Containers, and
- 3rd in Total International Cargo.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.3B

### Freight Mobility: Port of Baltimore International Cargo Market Share and Rankings

Chart 10.3B.1: Market Share, Mid-Atlantic Ports CY2015-CY2017



\*Q2 & Q3 2017 data for South NJ Ports are included with Philadelphia

# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

Maryland Port Administration (MPA)

## PERFORMANCE MEASURE DRIVER:

Deb Rogers

Maryland Vehicle Administration  
(MVA)

## PURPOSE OF MEASURE:

Data shows level of activity at Public Marine Terminals.

## FREQUENCY:

Monthly

## DATA COLLECTION METHODOLOGY:

Data obtained from MPA cargo Billing Reporting and Statistical System (BRASS). Historical data is available to 1998.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.3C

MPA Total General Cargo Tonnage including the following strategic commodities:

Containers, Autos, RoRo and Imported Forest Products

As a rule of thumb, general cargo generates more jobs per ton than bulk commodities. Although international general cargo is one-third of the Port's total tonnage, it accounts for 94 percent of the Port's cargo value, and the State's public terminals handle most of the general cargo. Therefore, it is an important measure to track. Plus, freight is the economy in motion and marine terminals are a hive of activity which generates jobs.

Although the MPA set a record of 10.1 million tons in 2016, the Port's public terminals continue the record breaking trend in 2017, i.e., May set a new all-time monthly high, and the first ten months of 2017 are 7.95 percent higher than the same period of the prior year.

Containers showed the strongest growth. With the US Dollar weakening, and some global economies improving, exports have increased for Autos and Roll-on; Roll-off heavy equipment, i.e. farm, construction and mining equipment. Baltimore is the top Auto and Ro/Ro port on the East Coast.

MPA conducts a multi-pronged effort to sustain and expand cargo volumes, e.g., emphasizing long term contracts with favorable rates; marketing for the whole Port; facilitating ways to improve efficiency at Seagirt Marine Terminal to increase truck productivity; managing the capital program to focus on system preservation to keep current customers; and enhancements to keep pace with the evolving global logistics and ever-increasing fleet size and vessel sharing agreements.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.3C

MPA Total General Cargo Tonnage including the following strategic commodities: Containers, Autos, RoRo and Imported Forest Products

Chart 10.3C.1: MPA General Cargo Tonnage CY2016-CY2017

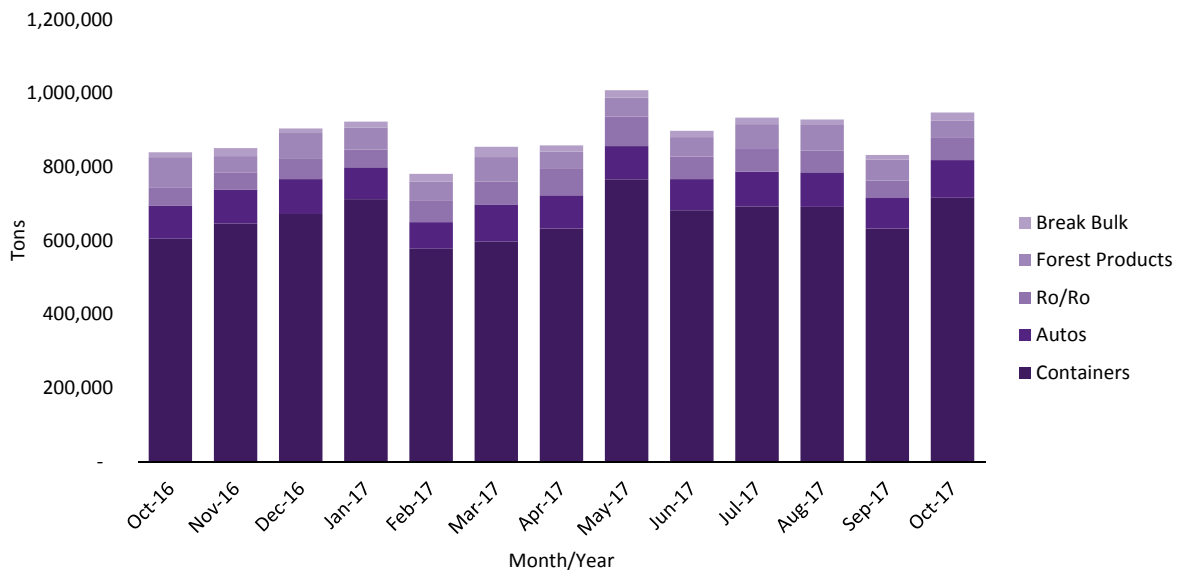
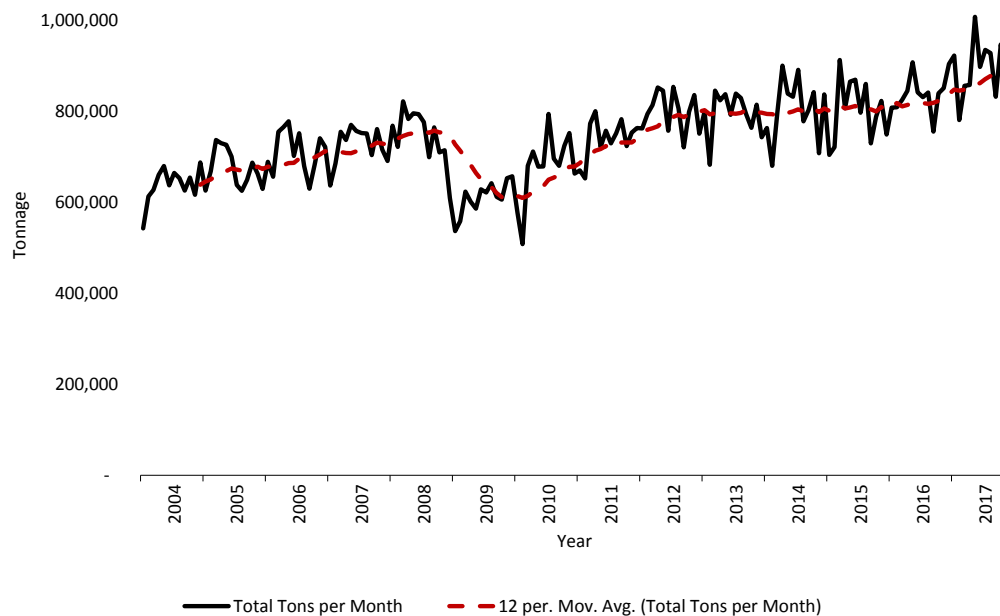


Chart 10.3C.2: MPA Total Monthly General Cargo Tonnage CY2004-CY2017



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Rafael Espinoza

*Maryland Transportation Authority (MDTA)*

## PURPOSE OF MEASURE:

To minimize the number of weight-posted bridges to facilitate the improvement in movement of goods to businesses, communities and the economy.

## FREQUENCY:

Annually (in July)

## DATA COLLECTION METHODOLOGY:

Data reflects federal reporting in April of each year. The number of bridges on the State-owned system that are weight-posted are reported in the Structure Inventory and Appraisal (SI&A) report. That number is then divided by the total number of SHA and MDTA bridges, resulting in the calculation of the percentage of weight-posted bridges on the State system.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.4

### Number and Percentage of Bridges on the State-Owned System that are Weight-Posted

Weight-posted bridges are those that are unable to safely carry the maximum weight of a legally loaded vehicle (80,000 lbs. for tractor trailers and 70,000 lbs. for dump trucks). Weight-posted bridges adversely affect movement of goods for businesses and communities, and can impact daily commercial operations and business growth.

Allowing all legally-loaded vehicles to traverse the bridges on the State system is essential to commerce in Maryland, facilitating the movement of goods and provision of services efficiently throughout the State. Minimizing weight posted bridges ensures the safety of the traveling public and facilitates emergency response time by avoiding the need for detour routes.

If a bridge cannot safely carry all legal loads, due to its present condition or original design criteria, it will be evaluated and a vehicle weight will be established that it can safely carry. This lower vehicle weight (which is less than the legal weight) will be placed on signs alerting all potential users of the maximum load that the bridge should carry.

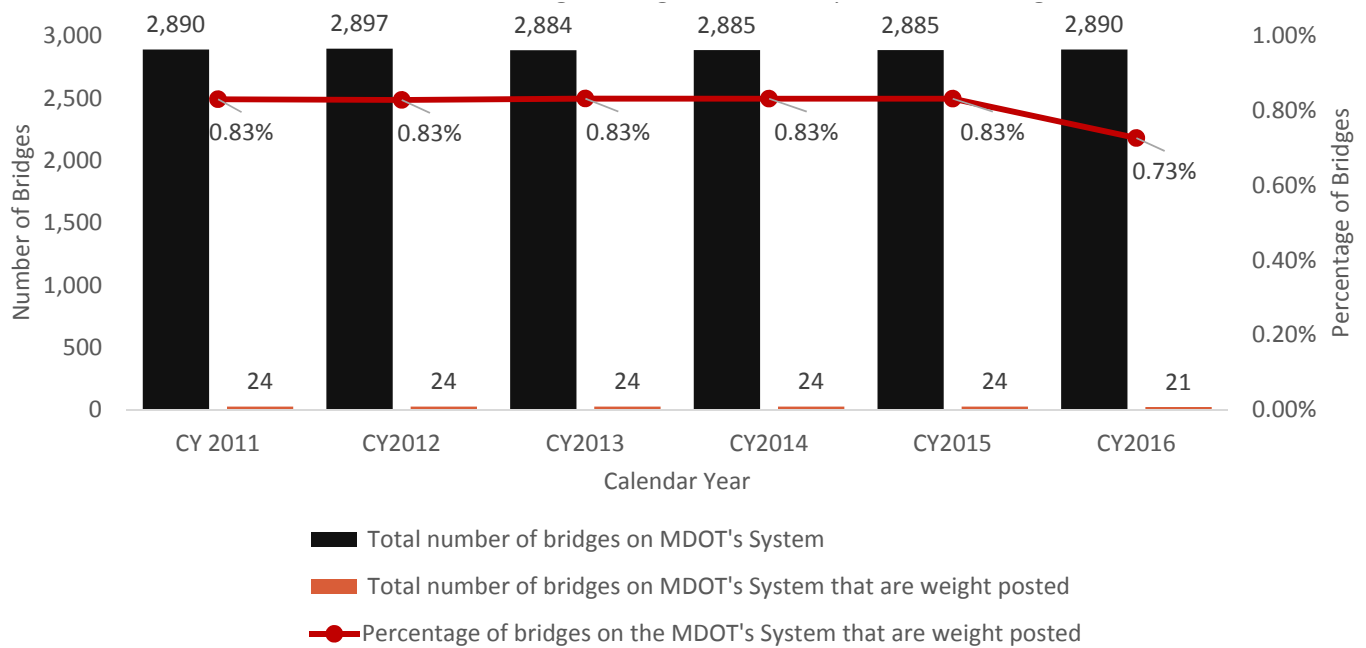
Whenever inspections of weight-posted bridges or structurally deficient bridges indicate that repairs are necessary to prevent a weight posting or the lowering of the existing allowable weight restriction, the work to prevent this will be given top priority, and where possible, complete actual construction 18 months from the date when the need for the work was established. Less than 1 percent of SHA and MDTA bridges have a weight restriction.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.4

### Number and Percentage of Bridges on the State-Owned System that are Weight-Posted

Chart 10.4.1 Number & Percentage of Bridges on MDOT's System that are Weight-Posted CY2011-CY2016



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Corey Stottlemeyer

*The Secretary's Office (TSO)*

## PURPOSE OF MEASURE:

To quantify the impacts of changes in the transportation network on the state's economy due to completed transportation projects providing businesses with access to labor, customers, and suppliers. Improved access leads to greater opportunities.

## FREQUENCY:

Annually (in April)

## DATA COLLECTION METHODOLOGY:

As transportation projects are completed and the transportation network is enhanced, changes in travel demand and user choice will be modeled using a transportation economic impact model; this is a multimodal measure.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.5

### Change in Market Access due to Improvements in the Transportation Network

Improving access within Maryland's transportation network is a critical role MDOT plays in facilitating economic opportunity for the citizens of Maryland, its businesses and those who come to the State to do business. Currently, MDOT does not measure the impact of changes to the transportation network and its effect on market access. This measure would allow MDOT to look at how improvements in roads and multimodal access is affecting Maryland's economy and assess whether businesses have better access to labor, customers, suppliers and international markets.

This measure includes potential impacts from:

- Business Relocation – Improved market access has the effect of strengthening an economy's competitiveness in attracting and retaining business relative to other locations.
- Productivity Growth – Increasing an economy's accessibility and connectivity generates agglomeration benefits from returns to scale in production, knowledge spillovers, and better matching of suppliers and employees to businesses.
- Increased Import/Export Activity – Improving an economy's access to international gateways can enable new import/export activity.

The Multimodal Process Improvement Team for this measure has met and the tool used to measure the market access has been secured. MDOT has developed a standardized approach to modeling projects and is running test simulations to ensure consistency.



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Corey Stottlemeyer

*The Secretary's Office (TSO)*

## PURPOSE OF MEASURE:

To quantify the impacts of changes in the transportation network on the productivity of people and businesses in Maryland.

## FREQUENCY:

Annually (in April)

## DATA COLLECTION METHODOLOGY:

As transportation projects are completed and the transportation network is enhanced, changes in travel demand and user choice will be modeled using a transportation economic impact model; this is a multimodal measure.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.6

### Change in Productivity due to Improvements in the Transportation Network

Productivity gains are essential to economic growth as businesses and people have to do more with fewer resources. The transportation network is similar to the Internet and other innovations that allow people and businesses to be more productive. Currently, MDOT does not measure the impact of changes to the transportation network and its effect on productivity.

Using a transportation economic impact model, MDOT will be able to assess four types of productivity benefits to ensure it helps facilitate business opportunities throughout Maryland:

1. Travel cost savings;
2. Reliability benefits for industry;
3. Delivery logistics and supply chain benefits; and
4. Agglomeration effects on access to specialized skills and services.

The Multimodal Process Improvement Team for this measure has met and the tool used to measure the productivity has been secured. MDOT has developed a standardized approach to modeling projects and is running test simulations to ensure consistency.

# Facilitate Economic Opportunity in Maryland

## **TANGIBLE RESULT DRIVER:**

Jim Dwyer

*Maryland Port Administration (MPA)*

## **PERFORMANCE MEASURE DRIVER:**

Karuna R. Pujara

*State Highway Administration (SHA)*

## **PURPOSE OF MEASURE:**

To estimate benefits to highway users due to CHART incident management, major/minor capital improvements, signal retiming, HOV lane, and park-and-ride operations as an indicator of cost savings due to reduced delay.

## **FREQUENCY:**

Annually (in January)

## **DATA COLLECTION METHODOLOGY:**

MDOT collects and maintains data on travel speeds, traffic volumes, incidents, and facility usage to develop user cost savings.

## **NATIONAL BENCHMARK:**

N/A

## **PERFORMANCE MEASURE 10.7A**

### **Total User Cost Savings for the Traveling Public due to Congestion Management**

The SHA and MDTA implement various projects, programs and policies to reduce congestion and enhance mobility on their facilities. The SHA focuses on both recurrent and non-recurrent aspects of congestion. These include CHART, Incident Management and Intelligent Transportation Systems (ITS) programs, major/minor roadway geometric improvements, traffic signal system optimization, and multimodal strategies like HOV lane operations and park-and-ride facilities. The congestion management solutions implemented by SHA and MDTA result in significant user cost savings (e.g. delay reduction, fuel savings) to automobile and truck traffic.

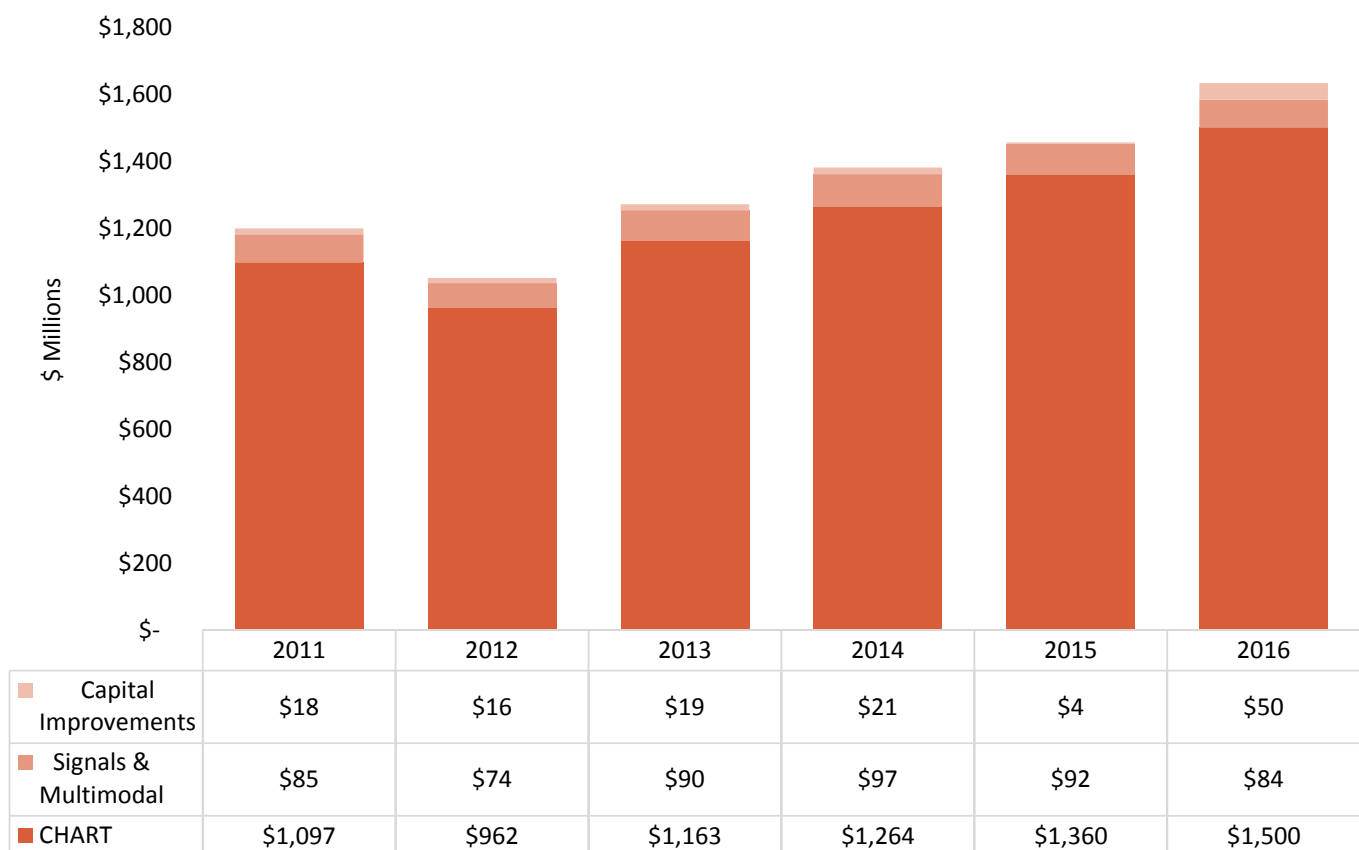
MDOT continues to implement operational strategies, including a Transportation Systems Management and Operations (TSM&O) Strategic Plan, and provides Traffic Incident Management training to partner organizations, while also exploring local, regional and State incident management coordination opportunities. Reductions in travel times directly result in roadway user cost savings.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.7A

### Total User Cost Savings for the Traveling Public due to Congestion Management

Chart 10.7A.1: Annual User Cost Savings Through MDOT Congestion Management Efforts CY2011-CY2016



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Deborah Rogers

*Motor Vehicle Administration (MVA)*

## PURPOSE OF MEASURE:

To measure the impact of wait time cost to MDOT MVA customers visiting a branch.

## FREQUENCY:

Annually (in January)

## DATA COLLECTION METHODOLOGY:

Wait time is calculated by the customer traffic monitoring (CTM) system. Average Branch Wait Time is determined by the CTM analysis. Research is completed on the Maryland median Income. Calculation is completed to determine cost of waiting.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.7B

### Average Cost per Branch Customer due to Wait Time

MDOT MVA recognizes the value of our customers' time and therefore the goal is to decrease the time that customers spend waiting for goods and services. Continually, MDOT MVA implements process improvements and business policies which build efficiencies and therefore reduce the wait time for customers at our branch offices.

The graph shows that wait times are going down which means the cost to the customer waiting in line is going down. The economic vitality to the State is dependent on the ability to use resources and time in a manner that is beneficial for customers. The calculation is determined by (Wait Time and Median Hourly Wage).

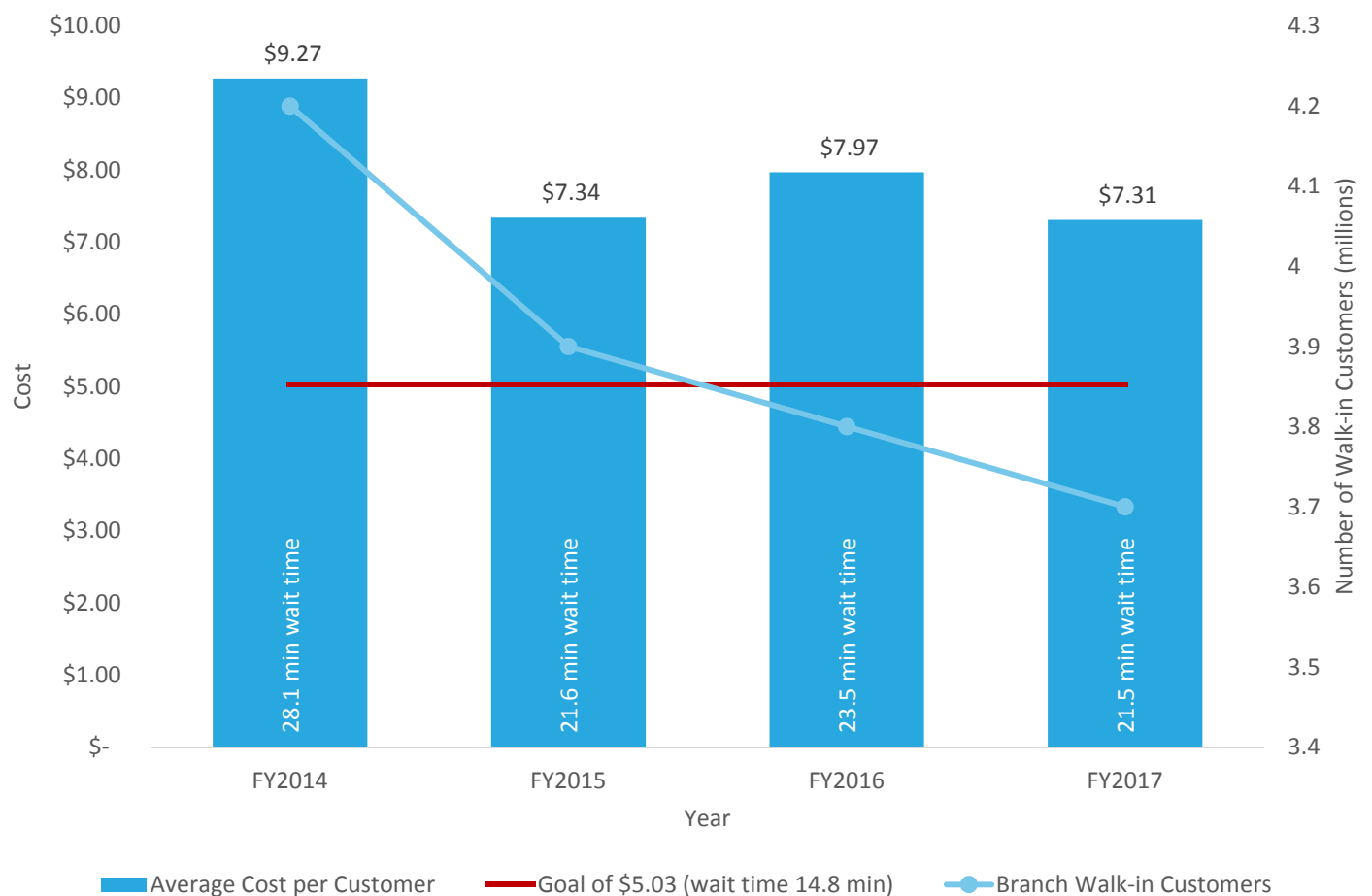
The goal for this measure is to trend downward. MDOT MVA would like to decrease the cost of wait time to our customers and provide secure and efficient services.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.7B

### Average Cost per Branch Customer due to Wait Time

Chart 10.7B.1: Average Cost to Customer due to Branch Office Wait Time FY2014-FY2017



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Deborah Rogers

*Motor Vehicle Administration (MVA)*

## PURPOSE OF MEASURE:

To identify costs savings to the customer based on the type of alternative service delivery method they choose to use to complete their MDOT MVA transactions.

## FREQUENCY:

Annually (in January)

## DATA COLLECTION METHODOLOGY:

MVA compiles the number of transactions for each type of ASD method. Average Wait Time is determined by the CTM analysis. Research is completed on the Maryland Median Hourly Wage. Calculation is completed to determine customer cost savings based on wait time savings, travel time savings and IRS mileage reimbursement.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.7C

### Opportunity Cost Savings to Customer for ASD Usage

Over the past several years, MDOT MVA has been able to shift most customer transactions from branch walk-in (40 percent) to alternative service delivery (ASD) (60 percent). The method of ASD chosen is often dependent on the customer or the transaction. However, ASD has proved to be an overall benefit to the customer which saves time, money and offers convenience. This measure calculates the opportunity cost savings to the customer for their usage of ASD. Each ASD method will offer a different savings. The savings calculation is determined by wait time savings, Maryland average hourly wage, travel time savings, and IRS mileage reimbursement.

The largest customer savings of over \$60 is from the use of internet and mail. These ASD methods do not require travel to an MDOT MVA Branch office nor is there a wait time associated with these transactions. Furthermore, the customer convenience is highest. The least customer savings is from the use of kiosk and tablet. With an opportunity cost savings of over \$7.00, the customer would still have associated travel times and wait times with the kiosk and tablet ASD usage.

MDOT MVA continues to build process and system efficiencies that will support the use of ASD. Over the past year, MDOT MVA has implemented several ASD enhancements that support the convenience of customer transactions.

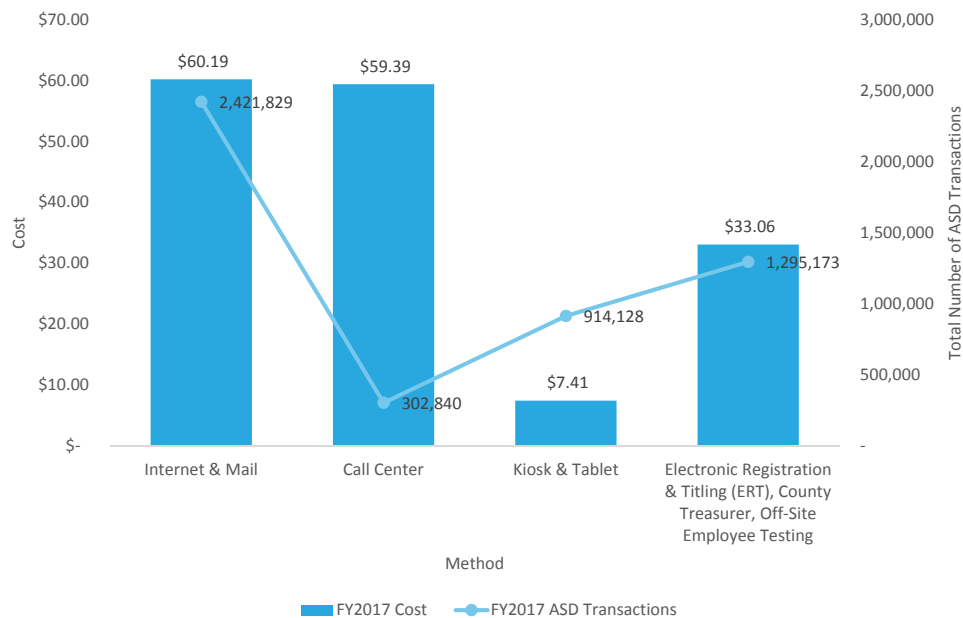
- Redesigned emails for renewal notices to customers for example adding the option of “one-click” to complete to complete vehicle registration renewals.
- Provided tablets in our branch office that can triage customers for services as well as complete Tag Return transactions.
- Implemented Vision Screening Stations in our branch offices which allows a customer to complete their vision test for driver’s license renewals and then the remainder of their transaction can be completed at the kiosk or their home computer.

# Facilitate Economic Opportunity in Maryland

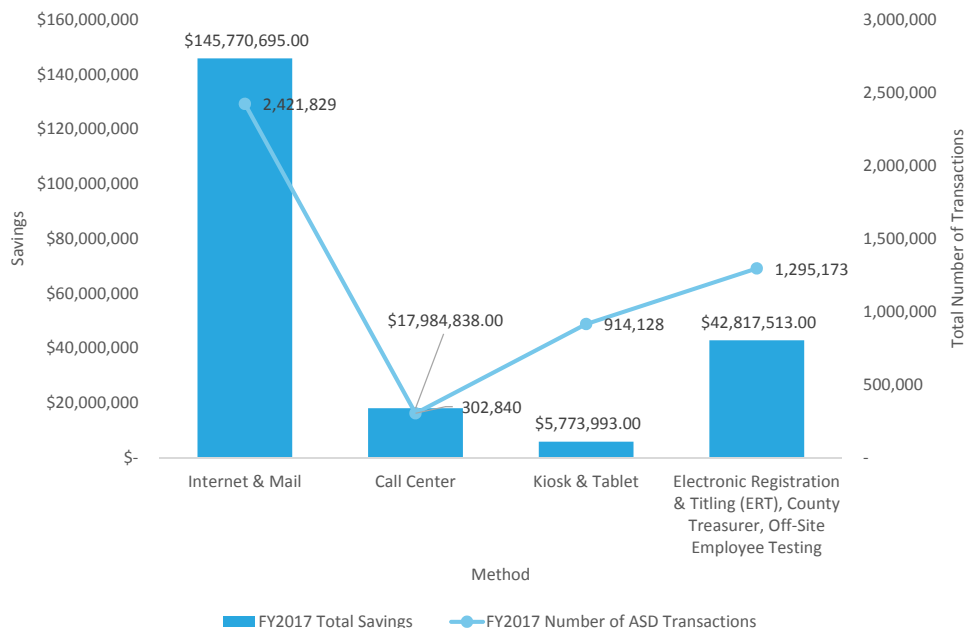
## PERFORMANCE MEASURE 10.7C

### Opportunity Cost Savings to Customer for ASD Usage

**Chart 10.7C.1: Opportunity Cost Savings to Customer for Alternative Service Delivery (ASD) Usage - Individual Customer FY2017**



**Chart 10.7C.2: Opportunity Cost Savings to Customer for Alternative Service Delivery (ASD) Usage - Total Customers FY2017**





# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Karuna R. Pujara

*State Highway Administration (SHA)*

## PURPOSE OF MEASURE:

To quantify the degree of congestion experienced by highway users when traveling during peak hours.

## FREQUENCY:

Annually (in January)

## DATA COLLECTION METHODOLOGY:

Includes private sector vehicle probe speed data, and traffic count data on average weekdays.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 10.8

### Percent of VMT in Congested Conditions on Maryland Freeways and Arterials in the AM/PM Peak Hours

This measure represents the percentage of peak hour VMT on Maryland highways that occur in congested conditions. Congestion on freeways is said to occur when the travel time index (TTI) ratio is greater than 1.3 (traffic travels at 25 percent slower than the free flow speed). Congestion on arterials is said to occur when the traffic Level of Service (LOS) is rated E, or worse, on a scale of A through F. These congestion metrics are a good indicator of customer experience on roadways in morning and evening peak hours. The share of VMT on the freeways/expressways which occurred in congested conditions is generally higher than the share for arterial roadways. Peak hour congestion is dominated by nondiscretionary trips including goods movement, commute and school trips.

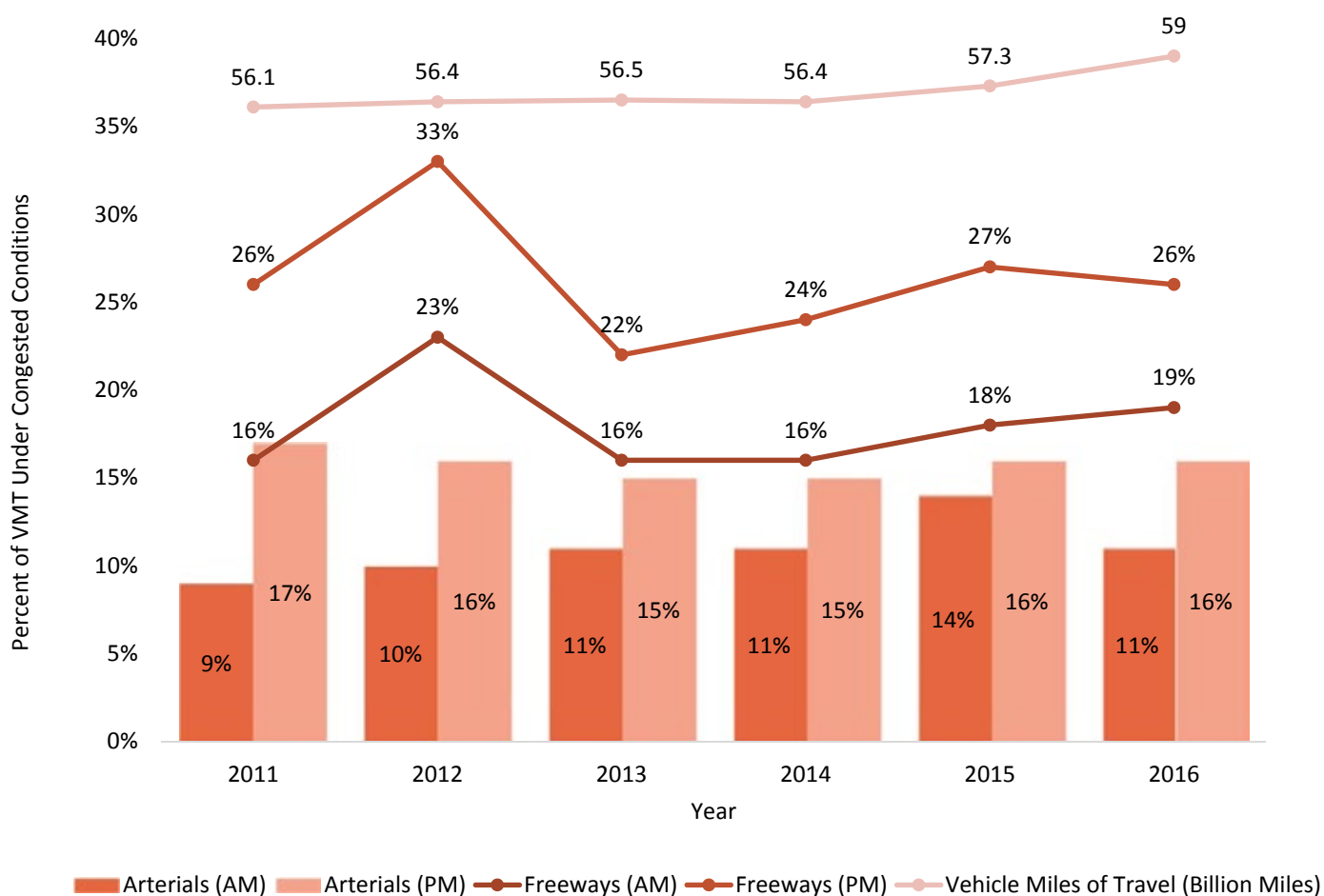
Reducing congestion and enhancing the reliability of peak hour trips make Maryland more attractive for economic development and provide users with a high quality, safe, efficient and reliable highway system while supporting State's economic growth.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.8

Percent of VMT in Congested Conditions on Maryland Freeways and Arterials in the AM/ PM Peak Hours

Chart 10.8.1: Peak Hour Congested VMT Trends on Maryland Roadways CY2011-CY2016



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

*Maryland Port Administration (MPA)*

## PERFORMANCE MEASURE DRIVER:

Jack Cahalan

*Maryland Aviation Administration  
(MAA)*

## PURPOSE OF MEASURE:

To demonstrate Martin State Airport's share of the general aviation business in the Baltimore region.

## FREQUENCY:

Quarterly

## DATA COLLECTION METHODOLOGY:

Operations Network Data compiled by the Federal Aviation Administration.

## NATIONAL BENCHMARK:

General aviation activity at BWI Marshall's general aviation facility.

## PERFORMANCE MEASURE 10.9A

### Market Share: Martin State Airport's Regional Market Share

Martin State Airport is a general aviation facility located in eastern Baltimore County, Maryland serving the general aviation needs of the Baltimore region. It is owned and operated by the State of Maryland. This performance measure gauges the percentage of non-local general aviation activity at Martin State Airport as compared to non-local general aviation activity at BWI Marshall. Non-local general aviation activity is defined as a flight where its origin or destination takes it beyond the electronic control of the local control tower. This measure captures the amount of discretionary use of Martin State Airport by the business and general aviation community flying in and out of the Baltimore region.

The volume of non-local general aviation operations is an indicator of how much business traffic Martin State Airport is, or is not, attracting. The more non-local operations, the more sale of fuel and other support operations occur at Martin State Airport. Such operations generate revenue and support existing jobs at, and around, the airport. Strong market share also indicates Martin State is adequately performing one of its primary missions, serving as a "reliever airport" for BWI Marshall. A reliever airport is one that attracts general aviation traffic away from a region's primary commercial airport, reducing demand on the congested airspace surrounding the commercial airport.

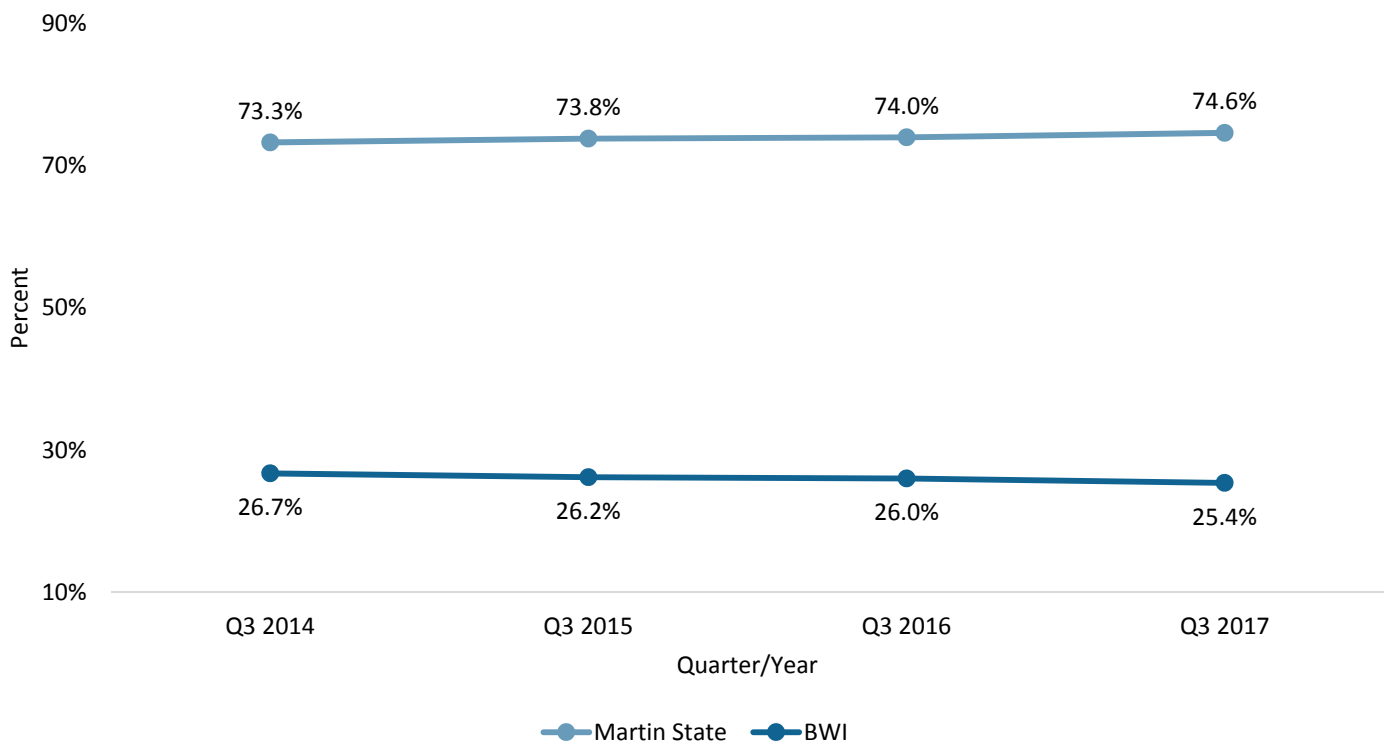
Martin State Airport is performing well. From Q3 2014 through Q3 2017, Martin State demonstrated solid growth in market share of non-local general aviation operations, increasing from 73 percent to nearly 75 percent while non-local general aviation activity at BWI Marshall declined from nearly 27 percent to 25 percent.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.9A

### Market Share: Martin State Airport's Regional Market Share

Chart 10.9A.1: Percent of all General Aviation Operations other than Local Operations Q3 CY2014-CY2017



# Facilitate Economic Opportunity in Maryland

## TANGIBLE RESULT DRIVER:

Jim Dwyer

Maryland Port Administration (MPA)

## PERFORMANCE MEASURE DRIVER:

Jack Cahalan

Maryland Aviation Administration  
(MAA)

## PURPOSE OF MEASURE:

To demonstrate the percent of scheduled nonstop destinations served by BWI Marshall against the total number of nonstop destinations served by the region's three major airports.

## FREQUENCY:

Quarterly

## DATA COLLECTION METHODOLOGY:

Air service schedule analysis.

## NATIONAL BENCHMARK:

Reagan National Airport; Dulles International Airport.

## PERFORMANCE MEASURE 10.9B

### Market Share: Percent of Nonstop Markets Served Relative to Benchmark Airports

The Washington-Baltimore region is served by three primary airports. They include: Baltimore/Washington International (BWI) Thurgood Marshall Airport; Ronald Reagan National Airport; and Dulles International Airport. More than 25 million passengers flew through BWI Marshall Airport in 2016, an all-time record for passenger traffic. International passenger traffic reached 1.2 million passengers in 2016, also a new record, and 2016 was the second straight year with more than one million passengers. This positive trend continues in 2017. In fact, BWI Marshall posted 26-straight monthly passenger records through August 2017. Only two strong hurricanes in September 2017 that negatively impacted air travel to the southern United States and the Caribbean stood in the way of a 27th record month.

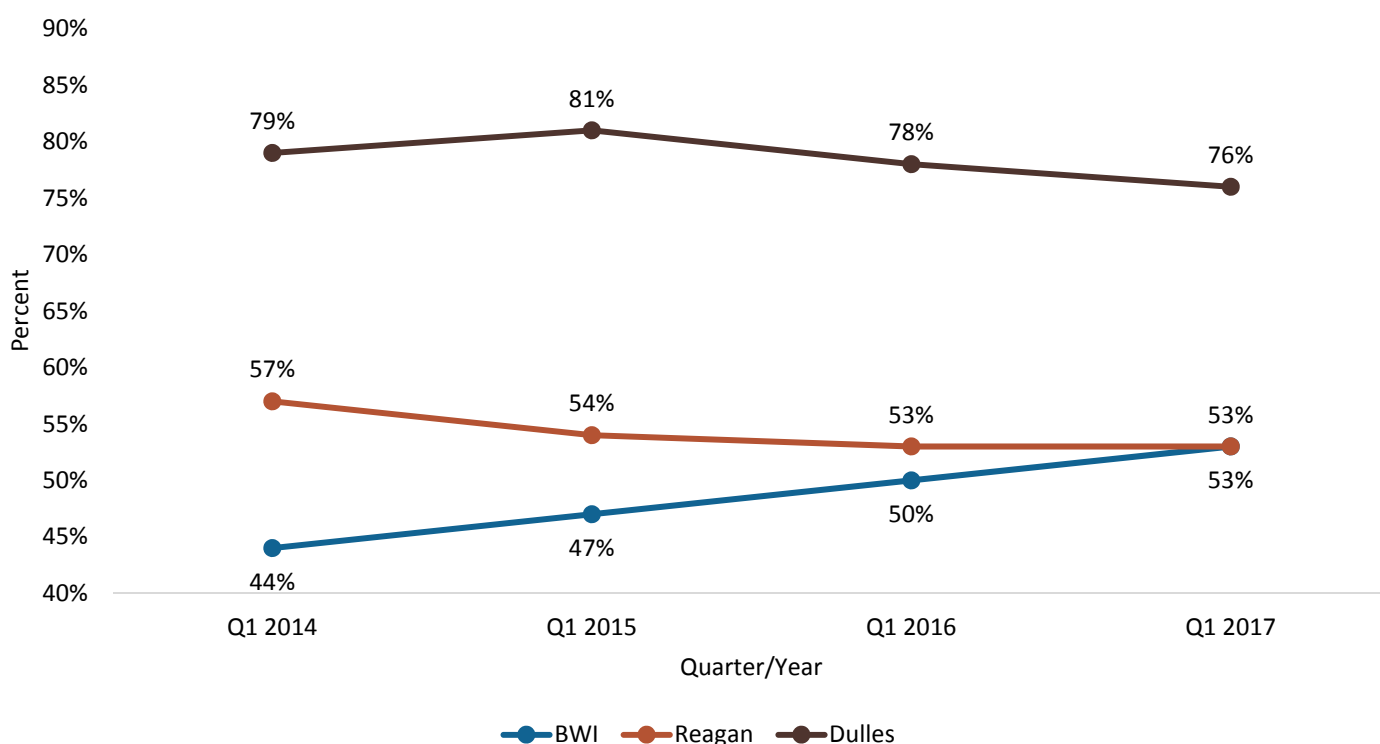
The number of nonstop destinations served by an airport is an important performance metric, as nonstop service is preferred by passengers. Due to the seasonal nature of air travel, the way to evaluate performance is by comparing how an airport performs in a particular quarter one year compared to that same quarter in another year. Chart 10.9B.1 demonstrates that BWI Marshall has produced a steady increase in nonstop destinations when comparing the third quarter of CY2014 through the third quarter of CY2017. The number of nonstop destinations served by BWI Marshall grew to 54 percent of all markets served by the region's three airports. That figure is up from 46 percent in the third quarter of CY2014. BWI Marshall Airport now offers service to more than 90 domestic and international destinations.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.9B

Market Share: Percent of Nonstop Markets Served Relative to Benchmark Airports

Chart 10.9B.1: Percent of Nonstop Markets Served Relative to Benchmark Airports in Q1 CY2014-CY2017



**TANGIBLE RESULT DRIVER:**

Jim Dwyer

*Maryland Port Administration (MPA)*

**PERFORMANCE MEASURE DRIVER:**

Jack Cahalan

*Maryland Aviation Administration (MAA)*

**PURPOSE OF MEASURE:**

To determine market share in Baltimore/Washington region by tracking number of passengers and departing flights at BWI Marshall compared to other airports in the region.

**FREQUENCY:**

Air service schedule analysis

**DATA COLLECTION METHODOLOGY:**

Air service schedule analysis.

**NATIONAL BENCHMARK:**

Reagan National Airport; Dulles International Airport.

**PERFORMANCE MEASURE 10.9C**

## Market Share: Percent of Passengers and Departing Flights Relative to Benchmark Airports

The Washington-Baltimore region is served by three primary airports. They include: Baltimore/Washington International (BWI) Thurgood Marshall Airport; Ronald Reagan National Airport; and Dulles International Airport.

More than 25 million passengers flew through BWI Marshall Airport in 2016, an all-time-record for passenger traffic. International passenger traffic reached 1,233,466 million passengers in 2016, also a new record, and 2016 was the second-straight year with more than one million international passengers. BWI Marshall has posted 26-straight monthly passenger records through August 2017.

Due to the seasonal nature of air service schedules, the most valid way to track service performance is a comparison of identical quarters in prior calendar years. As seen in the following charts, BWI Marshall Airport's percentage of departing flights steadily increased between the third quarter of 2014 and the same time-period in 2017. This positive performance is due primarily to continued growth by Southwest, jetBlue, Spirit, Alaska and Allegiant Airlines. In the third quarter of 2017, BWI Marshall Airport continued to serve more passengers than any other airport in the region.

BWI is first in market share of passengers and has climbed into second place in market share of number of departing flights. Reagan National maintains the top spot in the third quarter of 2017 because it handles a great deal of commuter flights which use smaller aircraft and carry fewer passengers. This fact results in a larger number of overall departures at Reagan than BWI Marshall.

By contrast, the overwhelming majority of flights at BWI Marshall involve regularly scheduled, longer distance flights using standard size commercial aircraft like the Boeing 737 flown by Southwest Airlines, which is responsible for 70 percent of the traffic at BWI Marshall. As an example, a commuter jet may carry 50 passengers where a 737-800 model aircraft flown by Southwest will carry 175.

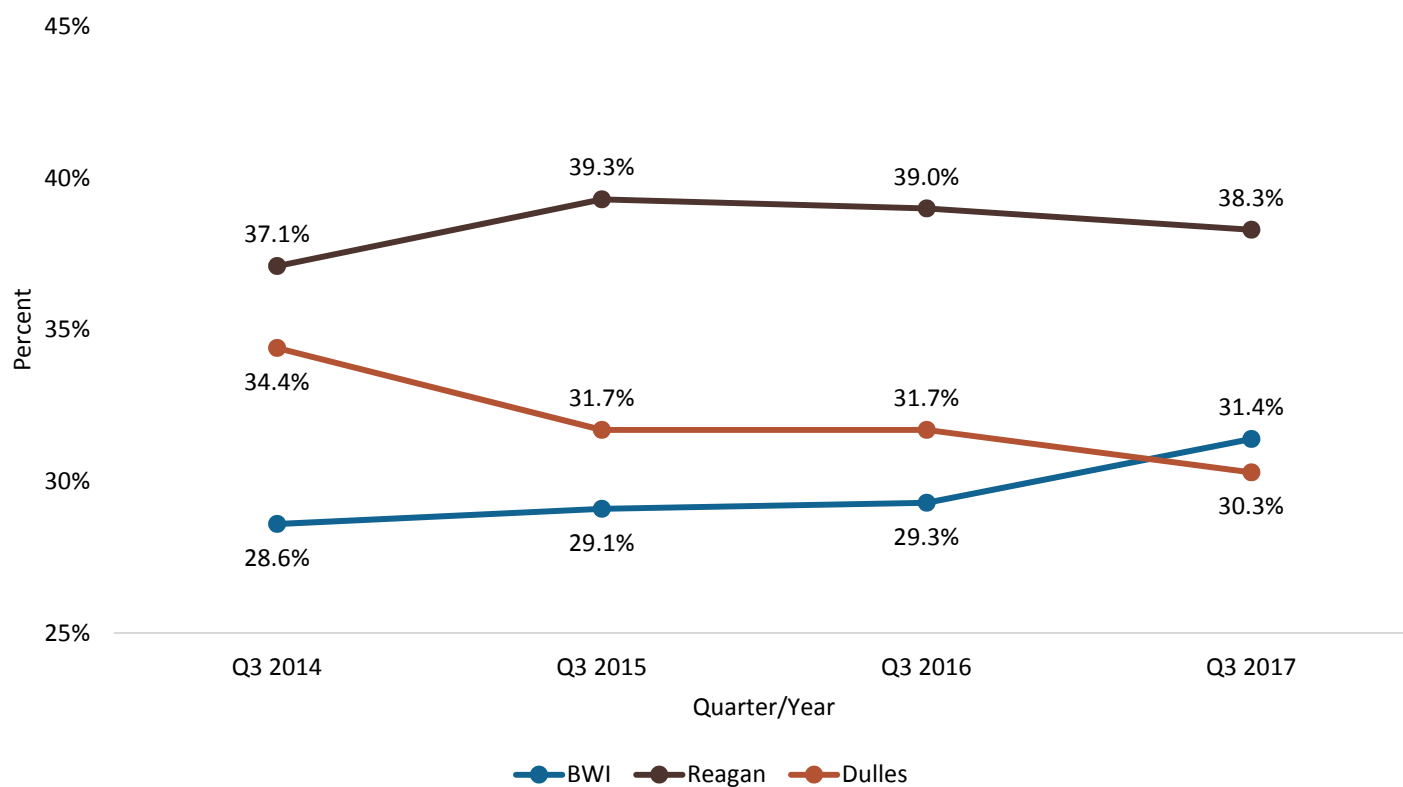


# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.9C

Market Share: Percent of Passengers and Departing Flights Relative to Benchmark Airports

Chart 10.9C.1: Percent of Total Daily Departures at the Region's Airports Q3 CY2014-CY2017



**TANGIBLE RESULT DRIVER:**

Jim Dwyer

*Maryland Port Administration (MPA)*

**PERFORMANCE MEASURE DRIVER:**

Glen Carter

*The Secretary's Office (TSO)*

**PURPOSE OF MEASURE:**

To improve customer service with a predictable, consistent and transparent process for obtaining an access permit for development in Maryland.

**FREQUENCY:**

Quarterly

**DATA COLLECTION METHODOLOGY:**

Reviews, permits and delivery times are tracked in the Access Management Database.

**NATIONAL BENCHMARK:**

N/A

**PERFORMANCE MEASURE 10.10**

## Percent of Roadway Access Permits Issued within 21 Days or Less

Access permits help promote safe and efficient roads for travel while supporting economic development and growth in jobs and businesses. The issuance of access permits, and the resulting construction of roadway and entrance improvements by developers, are some of the last steps before opening a business or selling commercial or residential properties for occupancy. This activity contributes to the creation of new jobs, businesses and development/redevelopment opportunities.

This measure tracks MDOT-SHA efforts to improve customer service with a predictable, consistent and transparent process for obtaining an access permit. The performance target is 100 percent of permits that are issued within 21 days (after receipt of a complete application package). On average over the last five years, 105-125 completed applications are received each year.

Ongoing practices include:

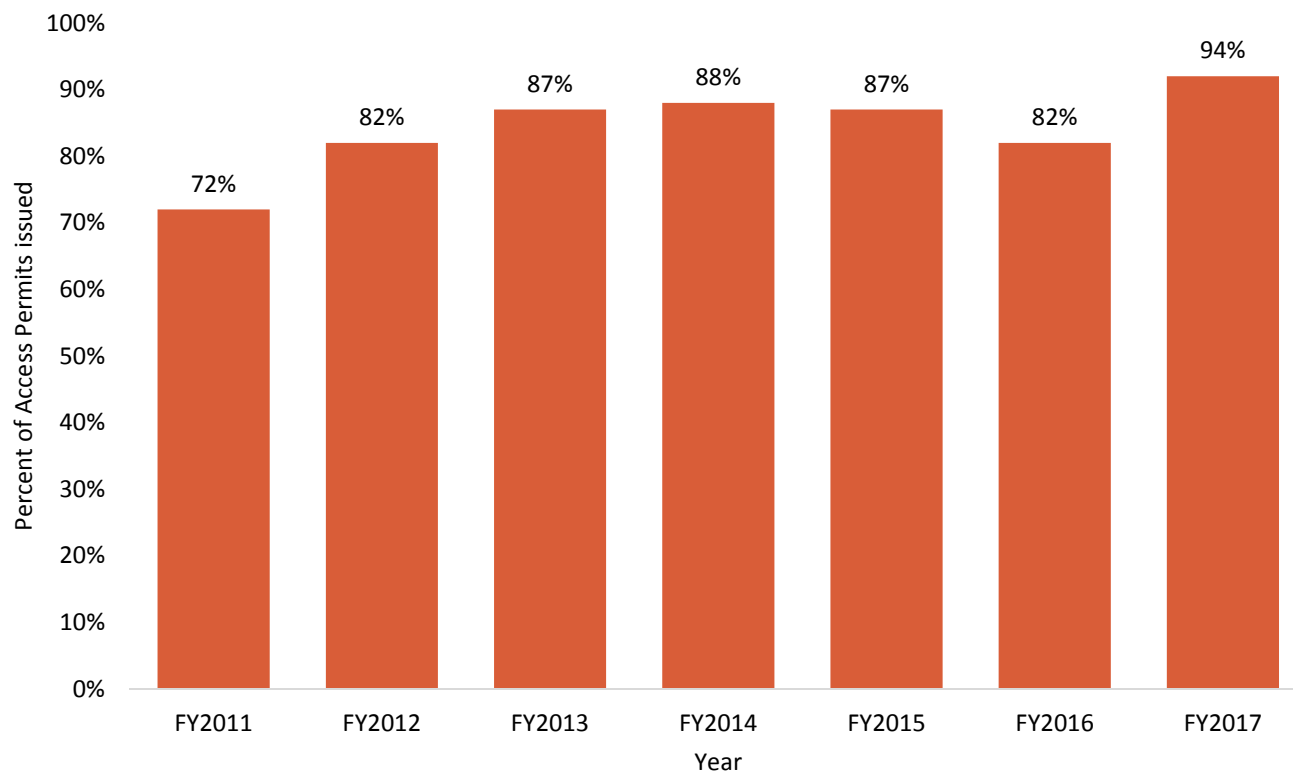
- Meeting with stakeholders in working group to establish clear expectations;
- Weekly project status alerts to the District Access Management Team.

# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.10

### Percent of Roadway Access Permits Issued within 21 Days or Less

Chart 10.10.1: Percent of Permits Issued Within 21 Days FY2011-FY2017



# Facilitate Economic Opportunity in Maryland

## PERFORMANCE MEASURE 10.10

### Percent of Roadway Access Permits Issued within 21 Days or Less

Chart 10.10.2: Percent of Permits Issued within 21 Days Per Quarter FY2016-FY2018

